

See Image for Certificate of Correction

TITLE: Color image reading apparatus with plural linear sensors which can read different lines of the image

----- KWIC -----

Detailed Description Text - DETX (6):

The structure will now be explained in further detail. As shown in FIG. 2, the contact type color CCD sensor unit 11 is composed of five CCD chips 21-25 arranged in staggered fashion on a ceramic substrate 26, a cover 27 for substrate 26 and connecting flexible cables 28a-28f. In the CCD chips 21-25, each photosensor element is composed of a p-n photodiode of a size of 62.5 μ m \times 15.5 μ m. Each CCD chip is provided, as shown in FIG. 4, with photosensor elements of 3,168 bits, including 12 bits of empty pixels D1-D12 unconnected with photosensitive elements, 24 bits of light-shielded pixels D13-D36 provided with an aluminum shield, 36 bits of dummy pixels D37-D72, 3,072 bits of effective pixels S1-S3072, and 24 bits of rear dummy pixels D73-D96.

Patent Number: 4,891,690
Date of Patent: Jan. 2, 1990

US PATENT DOCUMENTS

4/28/84 Japanese Pat. Off. 158/79
6/28/84 Fed. Rep. of Germany 158/79
10/2/84 Japan 158/79
10/10/84 Japan 158/79
6/2/83 Japan 158/79
9/18/83 Japan 158/79
6/18/84 Japan 158/79
6/18/83 Japan 158/79
6/18/83 Japan 158/79

OTHER PUBLICATIONS

Pat. Schenck & Co. 1984
Pat. Schenck & Co. 1984
Pat. Schenck & Co. 1984

Pat. Schenck & Co. 1984
Pat. Schenck & Co. 1984
Pat. Schenck & Co. 1984

ABSTRACT

A reading apparatus includes a plurality of each capable of generating plural analog color signals. The sensors are arranged in a color image in a divided manner and each one of the linear sensors read out of the color image. Also provided is a separating the plural analog color signals generated by the sensors into analog color signals of each color, and a converter is the analog color component signals of to digital color component signals of each color. The apparatus further includes a mixing plural continuous digital color signals representing a line of the color image of color component signals of each color. In addition, a processor is digital color processing of the plural color component signals to form digital color signals for the reproduction of the color image.

1 Claim, 16 Drawing Sheets

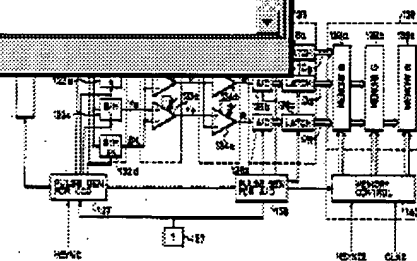
Details Text Image HTML KWIC

11 US 5452001 A

12 US 5038225 A

13 US 4891690 A

14 US 4492980 A



US-PAT-NO: 5612739

DOCUMENT-IDENTIFIER: US 5612739 A

TITLE: Charge transfer device

----- KWIC -----

Detailed Description Text - DETX (22):

Accordingly, in the charge transfer device of this embodiment charge is outputted after the pixel signal charges have been outputted. It should be noted that the shielded photosensor 1a in the sensor array 1 the closest to the output end contributes to outputting OPB (Output Pixel Buffer). Accordingly, it is possible to detect a dark component.

Details Text Image HTML KWIC

6 US 5633679 A

7 US 5612739 A

8 US 5591660 A

9 US 5567575 A

4

United States Patent (19)

Maki et al.

US 5612739 A

Patent Number: 5,612,739

Date of Patent: Mar. 18, 1997

(4) CHARGE TRANSFER DEVICE

(75) Inventor: Yasuhiko Maki; Maki Seiki; Tadatoshi

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(31) Assignee: Sony Corporation, Tokyo, Japan

(37) Appl. No.: 820,877

(32) Filed: Mar. 7, 1996

Related U.S. Application Data

(33) Continuation of Ser. No. 111,842, Mar. 23, 1994, now

dead.

(36) Foreign Application Priority Data

Mar. 13, 1993 (JP) Japan 5-068211

(31) Int. Cl.⁶ H04N 03/34

(32) U.S. Cl. 348/311; 348/347; 348/351; 358/401

(51) Field of Search 348/311, 347, 348/311, 347, 348/347, 348/351, 358/401, 358/402, 358/403, 358/404, 358/405, 358/406, 358/407, 358/408, 358/409, 358/410, 358/411, 358/412, 358/413, 358/414, 358/415, 358/416, 358/417, 358/418, 358/419, 358/420, 358/421, 358/422, 358/423, 358/424, 358/425, 358/426, 358/427, 358/428, 358/429, 358/430, 358/431, 358/432, 358/433, 358/434, 358/435, 358/436, 358/437, 358/438, 358/439, 358/440, 358/441, 358/442, 358/443, 358/444, 358/445, 358/446, 358/447, 358/448, 358/449, 358/450, 358/451, 358/452, 358/453, 358/454, 358/455, 358/456, 358/457, 358/458, 358/459, 358/460, 358/461, 358/462, 358/463, 358/464, 358/465, 358/466, 358/467, 358/468, 358/469, 358/470, 358/471, 358/472, 358/473, 358/474, 358/475, 358/476, 358/477, 358/478, 358/479, 358/480, 358/481, 358/482, 358/483, 358/484, 358/485, 358/486, 358/487, 358/488, 358/489, 358/490, 358/491, 358/492, 358/493, 358/494, 358/495, 358/496, 358/497, 358/498, 358/499, 358/500, 358/501, 358/502, 358/503, 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US-PAT-NO: 5717459

DOCUMENT-IDENTIFIER: US 5717459 A

TITLE: Solid state imager device having A/D converter

DATE-ISSUED: February 10, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	C
Maki; Yasuhito	Kanagawa	N/A	N/A	J
Goto; Tetsuro	Chiba	N/A	N/A	JP
Takagi; Tadao	Kanagawa	N/A	N/A	J
Iwasaki; Hiroyuki	Tokyo	N/A	N/A	JP

ASSIGNEE INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUN
Sony Corporation	Tokyo	N/A	N/A	JP
Nikon Corporation	Tokyo	N/A	N/A	JP

APPL-NO: 08/ 639733

DATE FILED: April 29, 1996

Details Text Image HTML FRO

60 US 5726710 A

61 US 5719625 A

62 US 5717459 A

63 US 5717457 A

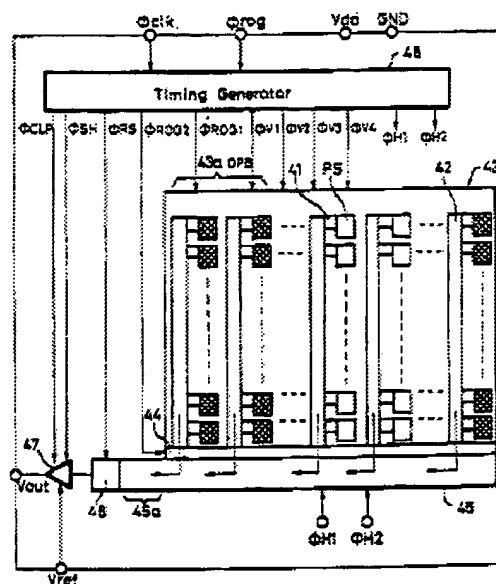
U.S. Patent

Feb. 10, 1998

Sheet 5 of 8

5,717,459

FIG. 5



DERWENT-ACC-NO: 1995-258846

DERWENT-WEEK: 200264

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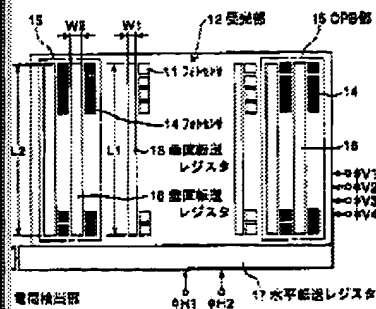
TITLE: Solid-state image pick-up element e.g. CCD - s
wider channel width for OPB transmission register
compared to channel width of light transmission

----- KWIC -----

Basic Abstract Text - ABTX (1):

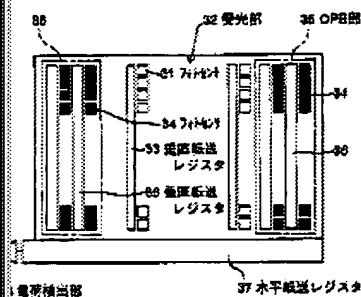
The image pick-up element is equipped with a light receiver (11). The photosensor carries out photo conversion of the incident light. The image pick-up element is an OPB (optical black part, 15) which consists of a shaded photo

【図1】



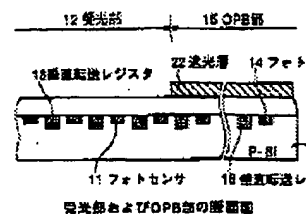
本発明の一実施例を示す概略構成図

【図3】



従来例を示す概略構成図

【図2】



受光部およびOPB部の断面図

Details Text Image HTML KWIC

20 EP 1058313 A

21 JP 10246879 A

22 JP 07161960 A

23 JP 02260868 A

【修正書】

34 Cinema, 34 Drawing Board

421

DOCUMENT-IDENTIFIER: US 20020001037 A1

TITLE: PHOTOELECTRIC CONVERSION DEVICE PROVIDING READOUT OF TWO-DIMENSIONAL ARRAY OF TRANSDUCERS

----- KWIC -----

Current US Classification, US Primary Class/Subclass - CCPR (1) 348/302

Detail Description Paragraph - DETX (17):

[0098] As another application, the sensor according to the prior art is greatly useful in detection of opening and closing of the eyes of an automobile driver. An external LED light is irradiated to the eye according to the above method and the reflected light is received by the sensor. Though a high intensity signal can be detected when a driver is awake, the intensity of the reflected light lowers when a driver is sleepy and a time of the closed eyes is long. When the sensor output is lower than the average intensity of the reflected light, a sleepiness preventing apparatus including a b

Details Text Image HTML KWIC

9 US 20020024605 A1

10 US 20020012056 A1

11 US 20020001037 A1

12 US 20010040633 A1

1



United States Patent Application Publication
Miyawaki et al. (a) Pub. No.: US 2002/0001037 A1
(b) Pub. Date: Jan. 3, 2002

(34) PHOTOELECTRIC CONVERSION DEVICE PROVIDING ADVANTAGEOUS READOUT OF TWO-DIMENSIONAL ARRAY OF TRANSDUCERS
(35) Continuation of application No. 08/549,928, filed on May 24, 1996, now abandoned.

(75) Inventors: MAHORO MIYAWAKI, HIRABARA, GOTO, MAKITO, SHINOBU, TOSHIKO, HIRABARA, USNO, HADANO-ST. (7)

Correspondence Address: FITZPATRICK CELLA HARPER & SCIENTO, 80 ROCKEFELLER PLAZA, NEW YORK, NY 10113 (US)

(*) Notice: This is a publication of a patented process or machine (PMA) filed under 37 CFR 1.51(a).

(71) Appl. No.: 08/549,928
(72) Filed: May 24, 1996

Related U.S. Application Data

(35) Continuation of application No. 08/549,928, filed on May 24, 1996, now abandoned.

Foreign Application Priority Data

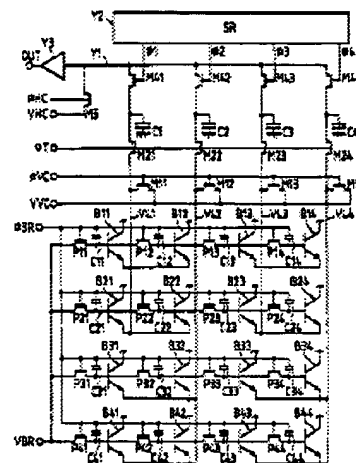
May 28, 1993 (JP) 4-227687
Aug. 6, 1993 (JP) 4-213647

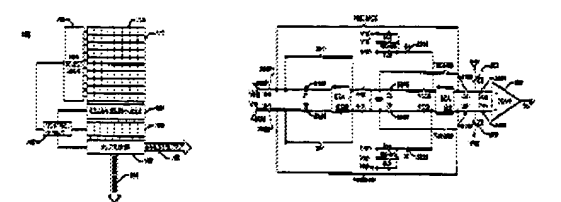
PUBLICATION CLASSIFICATION

(51) Int. Cl. H01N 3/14, H01N 3/35
(52) U.S. Cl. 246/202

ABSTRACT

The present invention is directed to provide a photoelectric conversion device provided with a plurality of groups each including a plurality of separate photoelectric conversion elements, wherein the plurality of groups are respectively provided with a detection circuit for detecting a peak signal of each group.





US-PAT-NO: 6320617

DOCUMENT-IDENTIFIER: US 6320617 B1

See image for Certificate of Correction

TITLE: CMOS active pixel sensor using a pinned photo

----- KWIC -----

Detailed Description Text - DETX (39):

Next, the clamped reset voltage is turned off, and the "crowt" is turned on at 810. The clamped reset voltage V_{cl} is controlled by the voltage CL that drives the clamping transistors 442 and 45. switch 428 is turned on, the inputs to the p-channel source-follower are shorted together. This averages the charge and also captures p-channel source followers in the column being read out.

Current US Original Classification - CCOR (1):

348/302

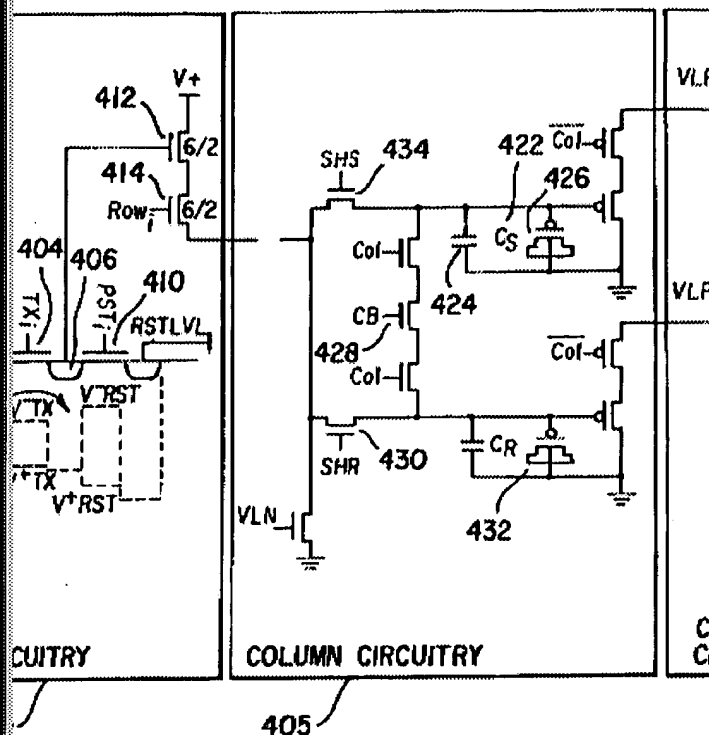
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26 US 6445413 B1

27 US 6417882 B1

28 US 6320617 B1

29 US 6166367 A



made over either a full image area (average mode) or a restricted mode). The present invention is easiest to embody in a full image with wiring changes in the array could be adapted to operate in

(19) United States
(12) Patent Application Publication (21) Pub. No.: US 2002/0024605 A1
(22) Merrill et al. (23) Pub. Date: Feb. 28, 2002

(36) METHOD FOR CAPTURING A DARK
FRAME

FIGURE 1

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(51) Int. Cl. H04N 3/14
(52) U.S. Cl. 348/240; 348/250

(57) ABSTRACT

A method for controlling the exposure of an active pixel array electronic still camera includes the steps of: integrating photocurrent in each pixel during an integration time period; selecting overflow charge from all pixels in the array during the integration time period; developing an overflow signal as a function of the overflow charge; and normalizing the integration time period when the overflow signal exceeds a preset threshold level selected to represent a desired reference exposure level. Apparatus for performing the method of the present invention includes circuitry for integrating photocurrent in each pixel during an integration time period; circuitry for detecting and selecting overflow charge from all pixels in the array during the integration time period; circuitry for developing an overflow signal as a function of the overflow charge; and circuitry for normalizing and integrating time period when the overflow signal exceeds a preset threshold level selected to represent a desired reference exposure level.

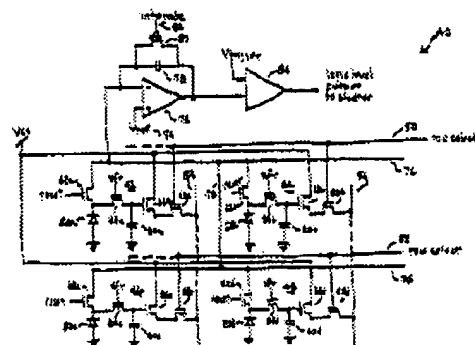
(75) Assignee: Perkin, Inc.

(21) Appl. No.: 09/871,996

(22) Filed: May 21, 2002

Related U.S. Application Data

(23) Division of application No. 08/031,250, filed on Feb. 16, 1994.



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7 US 20020085109 A1

8 US 20020024606 A1

9 US 20020024605 A1

10 US 20020012056 A1

DOCUMENT-IDENTIFIER: US 20010030702 A1**TITLE: Video bus for high speed multi-resolution image method thereof**

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Current US Classification, US Secondary Class/Subclass - CCSF
348/302**Detail Description Paragraph - DETX (27):**

[0058] Another useful approach to the column parallel nature 202(1) with the bus system 200(1) in accordance with the present invention is the ability to select multiple columns at once to average the video signals. This is possible because the column amplifiers in the processing unit 204 are identical in every detail and when more than one column is selected at once, the outputs from each amplifier try to drive the video signal to the same level. The result is that the two or more signals are averaged. This allows for a higher speed of operation and it also gives a new method of binning or interpolating pixels. Binning is a term used to combine two or

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13 US 20010040631 A1

14 US 20010030702 A1

15 US 20010026321 A1

16 US 20010012070 A1



US 20010030702 A1

(19) United States

(22) Patent Application Publication
Zarnowski et al.(12) Pub. No.: US 2001/0030702 A1
(13) Pub. Date: Oct. 18, 2001(54) VIDEO BUS FOR HIGH SPEED
MULTI-RESOLUTION IMAGERS AND
METHOD THEREOFof application No. 09/036,441, filed on Mar. 16, 1994,
now Pat. No. 5,624,225.

Publication Classification

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(US); Michael Joppe, North Syracuse,
NY (US)(51) Int. Cl. H04N 26/00; H04N 26/04
(52) U.S. Cl. 348/302; 348/304; 348/305Correspondence Address:
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Rochester, NY 14603 (US)

(21) Appl. No.: 09/768,134

(22) Filed: Jan. 23, 2001

Related U.S. Application Data

(63) Continuation-in-part of application No. 07/470,874,
dated on Dec. 24, 1990, which is a continuation-in-part

(57) ABSTRACT

A video system and an imager for transferring signals from a plurality of signal sources to an output includes a plurality of signal buses in parallel and a control system. The control system multiplexes the signals from two or more of the plurality of signal sources into one or more of the plurality of signal buses and allows the signals to substantially change each of the one or more of the plurality of signal buses before transferring the signals to the output. A method for transferring signals includes multiplexing signals on to two or more of a plurality of signal buses and allowing the signals to substantially change each of the two or more of the plurality of signal buses before transferring the signals to the output.

US-PAT-NO: 5933190

DOCUMENT-IDENTIFIER: US 5933190 A

TITLE: Pixel structure, image sensor using such pixel and corresponding peripheral circuitry

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Detailed Description Text - DETX (22):

It is a further object of the present invention to provide an electronic circuit wherein certain error signals, known as so-called "white" corrected by an averaging or minimization operation on a group of same area. An implementation is shown in FIG. 7. A group of 4 pixels 70 and 73 is treated as one group for signal processing. According to the implementation shown, a kind of minimum or average value of the 4 pixels will be used for further processing. If one of the pixels, pixel 70, has a defective (leaking) photodiode, during the address of pixel, switches 74 and 75 will be closed and the output signal of the pixel will be replaced by an appropriate average value of the pixels 71, 72 and 73. It is evident that any other implementation of such correction method

Details Text Image HTML KWIC

31 US 5978025 A

32 US 5973341 A

33 US 5933190 A

34 US 5933189 A

U.S. Patent

Aug. 3, 1999

Sheet 8 of 7

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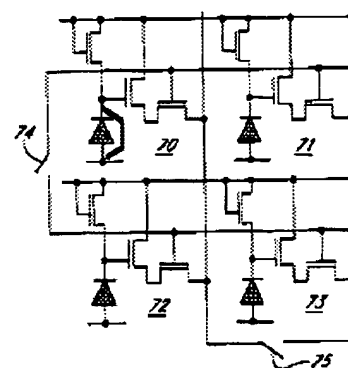


FIG. 7

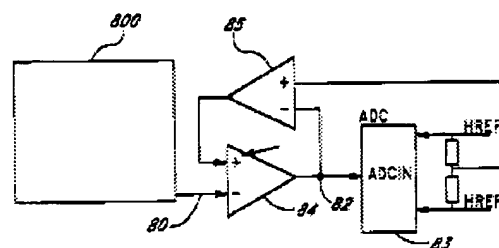


FIG. 8